

Title (en)

METHOD AND APPARATUS FOR CONTROLLING MANEUVERS OF A VEHICLE, AND VEHICLE COMPRISING SUCH APPARATUS

Publication

EP 0375055 A3 19900912 (EN)

Application

EP 89203225 A 19891218

Priority

US 29013088 A 19881223

Abstract (en)

[origin: EP0375055A2] Maneuvers of a vehicle, such as a car, are planned by propagating cost waves in a configuration space using a search strategy referred to as budding. The apparatus comprises means for storing an internal representation of a close environment of the vehicle, means for representing a pose of the vehicle in the given task space, which pose is measured in respect of a fixed point of the vehicle, and means for calculating a maneuver trajectory based on the internal representation. The close environment is a territory in which the maneuvering is performed: its size is within approximately the same order of magnitude as the size of the vehicle. The method of differential budding involves identifying a region in configuration space which is affected by a change of conditions in task space. Precisely selected states referred to as a perimeter and which define this region are then placed on a "sifting heap" from which they are budded.

IPC 1-7

G05D 1/02; G06F 15/70

IPC 8 full level

B25J 9/16 (2006.01); B62D 15/00 (2006.01); G05B 19/4061 (2006.01); G05D 1/02 (2006.01)

CPC (source: EP KR)

B25J 9/1666 (2013.01 - EP); B62D 15/025 (2013.01 - EP); B62D 15/0285 (2013.01 - EP); G05B 19/4061 (2013.01 - EP); G05D 1/02 (2024.01 - KR); G05D 1/0217 (2024.01 - EP); G05D 1/0272 (2024.01 - EP); G05B 2219/35415 (2013.01 - EP); G05B 2219/40443 (2013.01 - EP); G05B 2219/40476 (2013.01 - EP); G05B 2219/49143 (2013.01 - EP); G05D 1/0246 (2024.01 - EP)

Citation (search report)

- [A] US 4530056 A 19850716 - MACKINNON ALLAN S [US], et al
- [A] IEEE JOURNAL OF ROBOTICS AND AUTOMATION, vol. RA-3, no. 2, April 1987, pages 101-108, New York, US; J.S. SINGH et al.: "Robot Path Planning using Inters ecting Convex Shapes: Analysis and Stimulation"
- [A] LE NOUVEL AUTOMATISME, vol. 28, no. 36, March 1983, pages 52-60, Paris FRANCE; H. PLACE et al.: "Qu'en est-il des robots mobiles?"
- [A] PROCEEDINGS OF THE 25TH IEEE CONFERENCE DECISION & CONTROL, 10th - 12th December 1986, pages 1237-1249, Athens, GREECE; A. MEYSTEI: "Planning in a Hierarchical Nested Controller for Autonomous Robots"

Cited by

EP1285842A3; US5751573A; CN105764773A; CN106715246A; EP0483905A3; US9834251B2; US6882915B2; US6934614B2; US7069146B2; EP0546633A2; WO2024160084A1; WO2015028316A1

Designated contracting state (EPC)

DE FR GB IT NL SE

DOCDB simple family (publication)

EP 0375055 A2 19900627; EP 0375055 A3 19900912; EP 0375055 B1 19950322; DE 68921857 D1 19950427; DE 68921857 T2 19951109; JP H02238506 A 19900920; KR 900010515 A 19900707

DOCDB simple family (application)

EP 89203225 A 19891218; DE 68921857 T 19891218; JP 33297789 A 19891225; KR 890019212 A 19891222